

AMSAT News Service Weekly Bulletins
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SB ALL @ AMSAT \$ANS-160.01
STS-35/SAREX MISSION DELAYED

HR AMSAT NEWS SERVICE BULLETIN 160.01 FROM AMSAT HQ
SILVER SPRING, MD JUNE 9, 1990
TO ALL RADIO AMATEURS BT

STS-35/SAREX Mission Delayed Possibly for Two Months

This week NASA engineers and technicians found the hydrogen leak which prevented the lift-off of the shuttle Columbia (STS-35) on May 29th. Because of the danger of an explosion from a hydrogen leak in the engine compartment, NASA officials scrubbed the launch and worked up a plan to find it. The leak was located between two plates that connect the shuttle and the external tank. Since this is considered a major repair and one that cannot be performed on the launch pad, Columbia will have to be rolled back to the huge Vehicle Assembly Building (VAB). The roll-back will happen sometime next week and the repair of the leak and the return to flight readiness status of Columbia could take about a month. Complicating the repair work is the planned launch of the shuttle Atlantis (STS-38) for mid-July. Since Atlantis is carrying a secret military payload, it has national security priority over the scientific mission of STS-35. NASA officials now are saying that it could be August before Columbia and the STS-35/SAREX mission can get off the ground.

STS-35 is planned to be an all scientific shuttle mission carrying the ASTRO-1 observatory in its cargo bay. Also flying aboard as a secondary experiment is the Shuttle Amateur Radio Experiment (SAREX) payload. The SAREX station consists of a packet radio ROBOT TNC, a 2 meter FM hand-held transceiver, and a Grid laptop computer to be operated by Payload Specialist, Ron Parise (WA4SIR). The special software written for this packet station will allow amateurs to receive a QSO number after they successfully connect with the station on packet. Also, the plan is for WA4SIR to conduct 2 meter FM voice QSOs with amateurs on the ground.

Please stay tuned to AMSAT Nets and for further updates on the STS-35/SAREX mission.

/EX
SB ALL @ AMSAT \$ANS-160.02
ZRO TESTS CONTINUE

HR AMSAT NEWS SERVICE BULLETIN 160.02 FROM AMSAT HQ
SILVER SPRING, MD JUNE 9, 1990
TO ALL RADIO AMATEURS BT

Station Receiving Tests Continue

The following Mode "B" and "JL" ZRO tests remain in the current test rotation. They are scheduled for convenient operating times and favorable squint angles. The "B" tests can be heard on 145.840 MHz and the "JL" tests on 435.945 MHz.

Saturday	June 16, 1990 at 2200 UTC	"JL"
Saturday	June 16, 1990 at 2340 UTC	"B"
Saturday	June 30, 1990 at 1840 UTC	"JL"
Saturday	June 30, 1990 at 1930 UTC	"B"

Any changes will be announced as soon as possible via the AMSAT HF and A0-13

Operations Nets. Recently updated ZR0 brochures are available from WA5ZIB, Andy MacAllister, AMSAT V.P. User Operations, 14714 Knightsway Drive, Houston, TX 77083 for an S.A.S.E. with two units of postage. The brochure describes test procedures and means for obtaining certificates and gives some historical background about the program.

All listener reports with date of test and numbers copied should be sent to WA5ZIB at the address above. A report will be returned verifying the level of accurate reception. Good luck!

/EX

SB ALL @ AMSAT \$ANS-160.03

NOMINATIONS FOR AMSAT-NA BOD

HR AMSAT NEWS SERVICE BULLETIN 160.03 FROM AMSAT HQ
SILVER SPRING, MD JUNE 9, 1990
TO ALL RADIO AMATEURS BT

Nominations Period for Three Seats on AMSAT-NA BOD to Close Soon

Nominations are sought for the AMSAT Board of Directors. Directors are elected by the membership for a two-year term. Any member society or group of five members may nominate someone (a member) to run for the position.

This year there are three seats to be filled. Those directors whose seats are up for election are Phil Karn, KA9Q, Tom Clark, W3IWI, and the seat vacated by the resignation of Vern Riportella, WA2LQQ.

All nominations should be sent to AMSAT BoD Nominations, 850 Sligo Ave #600, Silver Spring, MD 20910 to arrive no later than June 15, 1990.

/EX

SB ALL @ AMSAT \$ANS-160.04

OPERATIONS NET SCHEDULE

HR AMSAT NEWS SERVICE BULLETIN 160.04 FROM AMSAT HQ
SILVER SPRING, MD JUNE 9, 1990
TO ALL RADIO AMATEURS BT

AMSAT-NA Operations Net Schedule Announced

AMSAT Operations Nets are planned for the following times. Mode B nets are conducted on an A0-13 downlink frequency of 145.950. Mode J/L nets are conducted on an A0-13 downlink frequency of 435.970.

Date UTC	Time	Phs	Mode	NCS	U.S. Day
15 Jun 90	0115	104	J/L	N5BF	Thursday
26 Jun 90	0115	144	B	N5BF	Monday

For information on the amateur satellite program and how you can participate, contact AMSAT-NA at P.O. Box 27, Washington, DC 20044, phone (301) 589-6062, or contact your local AMSAT Area Coordinator.

/EX

SB ALL @ AMSAT \$ANS-160.05

A0-13 TRANSPONDER SCHEDULE

HR AMSAT NEWS SERVICE BULLETIN 160.05 FROM AMSAT HQ
SILVER SPRING, MD JUNE 9, 1990
TO ALL RADIO AMATEURS BT

Transponder Schedule for A0-13 Effective 05MAY90

The present transponder schedule for A0-13 is as follows:

Mode-B	: MA 000 to MA 100	
Mode-JL	: MA 100 to MA 125	
Mode-LS	: MA 125 to MA 130	(Mode S Beacon only)
Mode-S	: MA 130 to MA 135	
Mode-BS	: MA 135 to MA 140	
Mode-B	: MA 140 to MA 256	
Omnis	: MA 220 to MA 040	

The current attitude is:

BLON = 179.2 and BLAT = -2.8 for 11 Jun 90

Cross mode B and S QSOs are possible during MA 135 to 140.

A0-10's Mode-B Transponder Now Available for Use:

AMSAT-OSCAR-10 appears to be receiving sufficient solar panel illumination to support Mode-B transponder operations, therefore, the transponder is available for general use whenever A0-10 is in view at your location. Please DO NOT use the transponder if the signals are FMing. The current estimate of A0-10's attitude is LON 24 deg LAT -9 deg.

[A0-10 update received from Graham Ratcliff, VK5AGR, via A0-13 beacons.]
/EX
SB ALL @ AMSAT \$ORBS-160.0
Orbital Elements 160.OSCAR

HR AMSAT ORBITAL ELEMENTS FOR OSCAR SATELLITES
FROM N3FKV LORENA, TX JUNE 9, 1990
TO ALL RADIO AMATEURS BT

Satellite: A0-10
Catalog number: 14129
Epoch time: 90157.09033828
Element set: 527
Inclination: 25.9956 deg
RA of node: 200.7381 deg
Eccentricity: 0.5958911
Arg of perigee: 148.8920 deg
Mean anomaly: 266.8516 deg
Mean motion: 2.05881905 rev/day
Decay rate: -6.50e-07 rev/day^2
Epoch rev: 5250

Satellite: U0-11
Catalog number: 14781
Epoch time: 90156.61567397
Element set: 744
Inclination: 97.9462 deg
RA of node: 209.5469 deg
Eccentricity: 0.0011698
Arg of perigee: 287.2040 deg
Mean anomaly: 72.7880 deg
Mean motion: 14.65389143 rev/day
Decay rate: 8.60e-06 rev/day^2
Epoch rev: 33427

Satellite: RS-10/11
Catalog number: 18129
Epoch time: 90158.24981126
Element set: 215
Inclination: 82.9256 deg
RA of node: 335.8699 deg

Eccentricity: 0.0012672
Arg of perigee: 141.2476 deg
Mean anomaly: 218.9588 deg
Mean motion: 13.72091938 rev/day
Decay rate: 1.38e-06 rev/day^2
Epoch rev: 14808

Satellite: A0-13
Catalog number: 19216
Epoch time: 90148.23246392
Element set: 128
Inclination: 56.9522 deg
RA of node: 153.1540 deg
Eccentricity: 0.6957743
Arg of perigee: 228.0483 deg
Mean anomaly: 47.3201 deg
Mean motion: 2.09698248 rev/day
Decay rate: 1.05e-06 rev/day^2
Epoch rev: 1498

Satellite: F0-20
Catalog number: 20480
Epoch time: 90158.26403898
Element set: 77
Inclination: 99.0392 deg
RA of node: 206.6464 deg
Eccentricity: 0.0541781
Arg of perigee: 71.0355 deg
Mean anomaly: 294.8623 deg
Mean motion: 12.83156596 rev/day
Decay rate: -7.20e-07 rev/day^2
Epoch rev: 1547
/EX
SB ALL @ AMSAT \$ORBS-160.D
Orbital Elements 160.MICROS

HR AMSAT ORBITAL ELEMENTS FOR THE MICROSATS
FROM N3FKV LORENA, TX JUNE 9, 1990
TO ALL RADIO AMATEURS BT

Satellite: U0-14
Catalog number: 20437
Epoch time: 90157.25043101
Element set: 161
Inclination: 98.7088 deg
RA of node: 233.4001 deg
Eccentricity: 0.0012400
Arg of perigee: 180.1294 deg
Mean anomaly: 179.9886 deg
Mean motion: 14.28624817 rev/day
Decay rate: 1.10e-06 rev/day^2
Epoch rev: 1930

Satellite: A0-16
Catalog number: 20439
Epoch time: 90158.29152781
Element set: 83
Inclination: 98.7019 deg
RA of node: 234.5188 deg
Eccentricity: 0.0011186
Arg of perigee: 180.6504 deg
Mean anomaly: 179.4668 deg
Mean motion: 14.28730423 rev/day
Decay rate: 3.82e-06 rev/day^2

Epoch rev: 1945

Satellite: D0-17

Catalog number: 20440

Epoch time: 90157.23747009

Element set: 86

Inclination: 98.7038 deg

RA of node: 233.4739 deg

Eccentricity: 0.0011196

Arg of perigee: 182.3300 deg

Mean anomaly: 177.7827 deg

Mean motion: 14.28775949 rev/day

Decay rate: 4.64e-06 rev/day^2

Epoch rev: 1930

Satellite: W0-18

Catalog number: 20441

Epoch time: 90156.24698547

Element set: 85

Inclination: 98.7040 deg

RA of node: 232.5010 deg

Eccentricity: 0.0011787

Arg of perigee: 186.8265 deg

Mean anomaly: 173.2720 deg

Mean motion: 14.28874390 rev/day

Decay rate: 4.72e-06 rev/day^2

Epoch rev: 1916

Satellite: L0-19

Catalog number: 20442

Epoch time: 90158.20120028

Element set: 86

Inclination: 98.7038 deg

RA of node: 234.4690 deg

Eccentricity: 0.0012274

Arg of perigee: 181.7350 deg

Mean anomaly: 178.3790 deg

Mean motion: 14.28941930 rev/day

Decay rate: 2.24e-06 rev/day^2

Epoch rev: 1944

/EX

SB ALL @ AMSAT \$ORBS-160.M

Orbital Elements 160.MISC

HR AMSAT ORBITAL ELEMENTS FOR MANNED AND MISCELLANEOUS SATELLITES
FROM N3FKV LORENA, TX JUNE 9, 1990
TO ALL RADIO AMATEURS BT

Satellite: SALYUT 7

Catalog number: 13138

Epoch time: 90158.21426006

Element set: 309

Inclination: 51.6033 deg

RA of node: 354.7111 deg

Eccentricity: 0.0001640

Arg of perigee: 169.8273 deg

Mean anomaly: 190.2785 deg

Mean motion: 15.63305589 rev/day

Decay rate: 2.7475e-04 rev/day^2

Epoch rev: 46329

Satellite: MIR

Catalog number: 16609

Epoch time: 90158.23225767

Element set: 717
Inclination: 51.6143 deg
RA of node: 20.9704 deg
Eccentricity: 0.0010772
Arg of perigee: 15.9591 deg
Mean anomaly: 344.2325 deg
Mean motion: 15.60941065 rev/day
Decay rate: 2.7135e-04 rev/day^2
Epoch rev: 24654

Satellite: HUBBLE
Catalog number: 20580
Epoch time: 90157.74572456
Element set: 82
Inclination: 28.4703 deg
RA of node: 316.0141 deg
Eccentricity: 0.0005785
Arg of perigee: 20.6795 deg
Mean anomaly: 339.3984 deg
Mean motion: 14.84389289 rev/day
Decay rate: 2.439e-05 rev/day^2
Epoch rev: 642

/EX

SB ALL @ AMSAT \$ORBS-160.W

Orbital Elements 160.WEATHER

HR AMSAT ORBITAL ELEMENTS FOR WEATHER SATELLITES
FROM N3FKV LORENA, TX JUNE 9, 1990
TO ALL RADIO AMATEURS BT

Satellite: NOAA-9
Catalog number: 15427
Epoch time: 90156.71989706
Element set: 589
Inclination: 99.1664 deg
RA of node: 156.2832 deg
Eccentricity: 0.0016025
Arg of perigee: 44.3419 deg
Mean anomaly: 315.9035 deg
Mean motion: 14.12583291 rev/day
Decay rate: 1.63e-06 rev/day^2
Epoch rev: 28236

Satellite: NOAA-10
Catalog number: 16969
Epoch time: 90156.60881657
Element set: 438
Inclination: 98.6027 deg
RA of node: 184.8145 deg
Eccentricity: 0.0013018
Arg of perigee: 308.0247 deg
Mean anomaly: 51.9755 deg
Mean motion: 14.23626479 rev/day
Decay rate: 6.17e-06 rev/day^2
Epoch rev: 19296

Satellite: MET-2/16
Catalog number: 18312
Epoch time: 90156.46754170
Element set: 434
Inclination: 82.5505 deg
RA of node: 299.5764 deg
Eccentricity: 0.0011428
Arg of perigee: 292.9706 deg

Mean anomaly: 67.0229 deg
Mean motion: 13.83649868 rev/day
Decay rate: 2.19e-06 rev/day^2
Epoch rev: 14136

Satellite: MET-2/17
Catalog number: 18820
Epoch time: 90156.99370699
Element set: 285
Inclination: 82.5449 deg
RA of node: 359.3631 deg
Eccentricity: 0.0017422
Arg of perigee: 0.8056 deg
Mean anomaly: 359.3129 deg
Mean motion: 13.84345313 rev/day
Decay rate: 1.67e-06 rev/day^2
Epoch rev: 11863

Satellite: MET-3/2
Catalog number: 19336
Epoch time: 90157.85755550
Element set: 497
Inclination: 82.5402 deg
RA of node: 284.7291 deg
Eccentricity: 0.0018110
Arg of perigee: 344.3398 deg
Mean anomaly: 15.7102 deg
Mean motion: 13.16898493 rev/day
Decay rate: 3.92e-06 rev/day^2
Epoch rev: 8959

Satellite: NOAA-11
Catalog number: 19531
Epoch time: 90157.39337851
Element set: 288
Inclination: 98.9815 deg
RA of node: 105.6890 deg
Eccentricity: 0.0011353
Arg of perigee: 319.0808 deg
Mean anomaly: 40.9513 deg
Mean motion: 14.11614778 rev/day
Decay rate: 3.28e-06 rev/day^2
Epoch rev: 8744

Satellite: MET-2/18
Catalog number: 19851
Epoch time: 90154.64893920
Element set: 234
Inclination: 82.5236 deg
RA of node: 239.2428 deg
Eccentricity: 0.0016253
Arg of perigee: 45.5452 deg
Mean anomaly: 314.7035 deg
Mean motion: 13.83979217 rev/day
Decay rate: 2.43e-06 rev/day^2
Epoch rev: 6369

Satellite: MET-3/3
Catalog number: 20305
Epoch time: 90158.25758036
Element set: 137
Inclination: 82.5550 deg
RA of node: 224.9950 deg
Eccentricity: 0.0016118

Arg of perigee: 359.3191 deg
Mean anomaly: 0.7905 deg
Mean motion: 13.15855924 rev/day
Decay rate: 3.40e-07 rev/day^2
Epoch rev: 2964
/EX